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uence Range: 1 to 6200

10 20 30 40 50 60 70
* * * * *
GACGGATCGG GAGATCTCCC GATCCCCTAT GGTGACTCT CAGTACAATC TGCTCTGATG CCGCATAGTT
80 90 100 110 120 130 140
* * * * *
AAGCCAGTAT CTGCTCCCTG CTTGTGTGTT GGAGGTCGCT GAGTAGTGCG CGAGCAAAAT TTAAGCTACA
150 160 170 180 190 200 210
* * * * *
ACAAGGCAAG GCTTGACCGA CAATTGCATG AAGAATCTGC TTAGGGTTAG GCGTTTTCGCG CTGCTTCGCG
220 230 240 250 260 270 280
* * * * *
ATGTACGGGC CAGATATACG CGTTGACATT GATTATTGAC TAGTTATTAA TAGTAATCAA TTACGGGGTC
290 300 310 320 330 340 350
* * * * *
ATTAGTTCAT AGCCCATATA TGGAGTTCCG CGTTACATAA CTTACGGTAA ATGGCCCGCC TGGCTGACCG
360 370 380 390 400 410 420
* * * * *
CCCAACGACC CCCGCCATT GACGTCAATA ATGACGTATG TTCCCATAGT AACGCCAATA GGGACTTTCC
430 440 450 460 470 480 490
* * * * *
ATTGACGTCA ATGGGTGGAC TATTTACGGT AAACGTCCCA CTTGGCAGTA CATCAAGTGT ATCATATGCC
500 510 520 530 540 550 560
* * * * *
AAGTACGCCC CCTATTGACG TCAATGACGG TAAATGGCCC GCCTGGCATT ATGCCAGTA CATGACCTTA
570 580 590 600 610 620 630
* * * * *
TGGGACTTTC CTACTTGGCA GTACATCTAC GTATTAGTCA TCGCTATTAC CATGGTGATG CGGTTTTGGC
640 650 660 670 680 690 700
* * * * *
AGTACATCAA TGGGCGTGGA TAGCGGTTTG ACTCACGGGG ATTTCCAAGT CTCCACCCCA TTGACGTCAA
710 720 730 740 750 760 770
* * * * *
TGGGAGTTTG TTTTGGCACC AAAATCAACG GGACTTTCCA AAATGTCGTA ACAACTCCGC CCCATTGACG
780 790 800 810 820 830 840
* * * * *
CAAATGGGCG GTAGGCGTGT ACGGTGGGAG GTCTATATAA GCAGAGCTCT CTGGCTAACT AGAGAACCCA
850 860 870 880 890 900 910
* * * * *
CTGCTTAACT GGCTTATCGA AATTAATACG ACTCACTATA GGGAGACCCA AGCTTCGCAG AATTCCTGCG
920 930 940 950 960 970 980
* * * * *
GCTGCTACAG TGTGTCCAGC GTCCTGCCTG GCTGTGCTGA GUGCTGGAAC AGTGGCGCAT CATTCAAGTG
990 1000 1010 1020 1030 1040 1050
* * * * *
CACAGTTACC CATCCTGAGT CTGGCACCTT AACTGGCACA ATTGCCAAG TCACAGGTGA GCTCAGATGC

FIGURE 1

1060 1070 1080 1090 1100 1110 1120
ATACCAGGAC ATTGTATGAC GTTCCCTGCT CACATGCCTG CTTTCTTCCT ATAATACAGA TGCTCAACTA
1130 1140 1150 1160 1170 1180 1190
ACTGCTCATG TCCTTATATC ACAGAGGGAA ATTGGAGCTA TCTGAGGAAC TGCCAGAAAG GGAAGGGCAG
1200 1210 1220 1230 1240 1250 1260
AGGGGTCTTG CTCTCCTTGT CTGAGCCATA ACTCTTCTTT CTACCTTCCA GTGAACACCT TCCCACCCCA
1270 1280 1290 1300 1310 1320 1330
GGTCCACCTG CTACCGCCGC CSTCGGAGGA GCTGGCCCTG AATGAGCTCT TGTCCCTGAC ATGCCTGGTG
1340 1350 1360 1370 1380 1390 1400
CGAGCTTTCA ACCCTAAAGA AGTGCTGGTG CGATGGCTGC ATGGAATGA GGAGCTGTCC CCAGAAAGCT
1410 1420 1430 1440 1450 1460 1470
ACCTAGTGTT TGAGCCCCTA AAGGAGCCAG GCGAGGGAGC CACCACCTAC CTGGTGACAA GCGTGTTGCG
1480 1490 1500 1510 1520 1530 1540
TGTATCAGCT GAAAGCTTGA TATCGAATTC CGGAGGCGGA ACCGGCAGTG CAGCCCGAAG CCCCAGCAGTC
1550 1560 1570 1580 1590
CCCCGAGCAGC CGTGGCC ATG CGT CCC CTG CGC CCC CGC GCC GCG CTG CTG GCG CTC CTG
Met Arg Pro Leu Arg Pro Arg Ala Ala Leu Leu Ala Leu Leu
a a a a a a ORF RF[1] a a a a a a
1600 1610 1620 1630 1640 1650
GCC TCG CTC CTG GCC GCG CCC CCG GTG GCC CCG GCC GAG GCC CCG CAC CTG GTG CAT
Ala Ser Leu Leu Ala Ala Pro Pro Val Ala Pro Ala Glu Ala Pro His Leu Val His
a a a a a a a a ORF RF[1] a a a a a a a a a a
1660 1670 1680 1690 1700 1710
GTG GAC GCG GCC GCG GCG CTG TGG CCC CTG CCG CGC TTC TGG AGG AGC ACA GGC TTC
Val Asp Ala Ala Arg Ala Leu Trp Pro Leu Arg Arg Phe Trp Arg Ser Thr Gly Phe
a a a a a a a a ORF RF[1] a a a a a a a a a a
1720 1730 1740 1750 1760 1770
TGC CCC CCG CTG CCA CAC AGC CAG GCT GAC CAG TAC GTC CTC AGC TGG GAC CAG CAG
Cys Pro Pro Leu Pro His Ser Gln Ala Asp Gln Tyr Val Leu Ser Trp Asp Gln Gln
a a a a a a a a ORF RF[1] a a a a a a a a a a
1780 1790 1800 1810 1820
CTC AAC CTC GCC TAT GTG GGC GCC GTC CCT CAC CGC GGC ATC AAG CAG GTC CCG ACC
Leu Asn Leu Ala Tyr Val Gly Ala Val Pro His Arg Gly Ile Lys Gln Val Arg Thr
a a a a a a a a ORF RF[1] a a a a a a a a a a
1830 1840 1850 1860 1870 1880
CAC TGG CTG CTG GAG CTT GTC ACC ACC AGG GGG TCC ACT GGA CGG GGC CTG AGC TAC
His Trp Leu Leu Glu Leu Val Thr Thr Arg Gly Ser Thr Gly Arg Gly Leu Ser Tyr

a a a a a a a a ORF RF[1] a a a a a a a a
 1890 1900 1910 1920 1930 1940
 AAC TTC ACC CAC CTG GAC GGG TAC CTG GAC CTT CTC AGG GAG AAC CAG CTC CTC CCA
 Asn Phe Thr His Leu Asp Gly Tyr Leu Asp Leu Leu Arg Glu Asn Gln Leu Leu Pro>
 a a a a a a a a ORF RF[1] a a a a a a a a
 1950 1960 1970 1980 1990
 GGG TTT GAG CTG ATG GGC AGC GCC TCG GGC CAC TTC ACT GAC TTT GAG GAC AAG CAG
 Gly Phe Glu Leu Met Gly Ser Ala Ser Gly His Phe Thr Asp Phe Glu Asp Lys Gln>
 a a a a a a a a ORF RF[1] a a a a a a a a
 2000 2010 2020 2030 2040 2050
 CAG GTG TTT GAG TGG AAG GAC TTG GTC TCC AGC CTG GCC AGG AGA TAC ATC GGT AGG
 Gln Val Phe Glu Trp Lys Asp Leu Val Ser Ser Leu Ala Arg Arg Tyr Ile Gly Arg>
 a a a a a a a a ORF RF[1] a a a a a a a a
 2060 2070 2080 2090 2100 2110
 TAC GGA CTG GCG CAT GTT TCC AAG TGG AAC TTC GAG ACG TGG AAT GAG CCA GAC CAC
 Tyr Gly Leu Ala His Val Ser Lys Trp Asn Phe Glu Thr Trp Asn Glu Pro Asp His>
 a a a a a a a a ORF RF[1] a a a a a a a a
 2120 2130 2140 2150 2160
 CAC GAC TTT GAC AAC GTC TCC ATG ACC ATG CAA GGC TTC CTG AAC TAC TAC GAT GCC
 His Asp Phe Asp Asn Val Ser Met Thr Met Gln Gly Phe Leu Asn Tyr Tyr Asp Ala>
 a a a a a a a a ORF RF[1] a a a a a a a a
 2170 2180 2190 2200 2210 2220
 TGC TCG GAG GGT CTG CGC GCC GCC AGC CCC GCC CTG CCG CTG GGA GGC CCC GGC GAC
 Cys Ser Glu Gly Leu Arg Ala Ala Ser Pro Ala Leu Arg Leu Gly Gly Pro Gly Asp>
 a a a a a a a a ORF RF[1] a a a a a a a a
 2230 2240 2250 2260 2270 2280
 TCC TTC CAC ACC CCA CCG CGA TCC CCG CTG AGC TGG GGC CTC CTG CGC CAC TGC CAC
 Ser Phe His Thr Pro Pro Arg Ser Pro Leu Ser Trp Gly Leu Leu Arg His Cys His>
 a a a a a a a a ORF RF[1] a a a a a a a a
 2290 2300 2310 2320 2330 2340
 GAC GGT ACC AAC TTC TTC ACT GGG GAG GCG GGC GTG CCG CTG GAC TAC ATC TCC CTC
 Asp Gly Thr Asn Phe Phe Thr Gly Glu Ala Gly Val Arg Leu Asp Tyr Ile Ser Leu>
 a a a a a a a a ORF RF[1] a a a a a a a a
 2350 2360 2370 2380 2390
 CAC AGG AAG GGT GCG CGC AGC TCC ATC TCC ATC CTG GAG CAG GAG AAG GTC GTC GCG
 His Arg Lys Gly Ala Arg Ser Ser Ile Ser Ile Leu Glu Gln Glu Lys Val Val Ala>
 a a a a a a a a ORF RF[1] a a a a a a a a
 2400 2410 2420 2430 2440 2450
 CAG CAG ATC CCG CAG CTC TTC CCC AAG TTC GCG GAC ACC CCC ATT TAC AAC GAC GAG
 Gln Gln Ile Arg Gln Leu Phe Pro Lys Phe Ala Asp Thr Pro Ile Tyr Asn Asp Glu>
 a a a a a a a a ORF RF[1] a a a a a a a a

FIGURE 1B.

2460 2470 2480 2490 2500 2510
GCG GAC CCG CTG GTG GGC TGG TCC CTG CCA CAG CCG TGG AGG GCG GAC GTG ACC TAC
Ala Asp Pro Leu Val Gly Trp Ser Leu Pro Gln Pro Trp Arg Ala Asp Val Thr Tyr>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

2520 2530 2540 2550 2560
GCG GCC ATG GTG GTG AAG GTC ATC GCG CAG CAT CAG AAC CTG CTA CTG GCC AAC ACC
Ala Ala Met Val Val Lys Val Ile Ala Gln His Gln Asn Leu Leu Leu Ala Asn Thr>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

2570 2580 2590 2600 2610 2620
ACC TCC GCC TTC CCC TAC GCG CTC CTG AGC AAC GAC AAT GCC TTC CTG AGC TAC CAC
Thr Ser Ala Phe Pro Tyr Ala Leu Leu Ser Asn Asp Asn Ala Phe Leu Ser Tyr His>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

2630 2640 2650 2660 2670 2680
CCG CAC CCC TTC GCG CAG CGC ACG CTC ACC GCG CGC TTC CAG GTC AAC AAC ACC CGC
Pro His Pro Phe Ala Gln Arg Thr Leu Thr Ala Arg Phe Gln Val Asn Asn Thr Arg>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

2690 2700 2710 2720 2730
CCG CCG CAC GTG CAG CTG TTG CGC AAG CCG GTG CTC ACG GCC ATG GGG CTG CTG GCG
Pro Pro His Val Gln Leu Leu Arg Lys Pro Val Leu Thr Ala Met Gly Leu Leu Ala>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

2740 2750 2760 2770 2780 2790
CTG CTG GAT GAG GAG CAG CTC TGG GCC GAA GTG TCG CAG GCC GGG ACC GTC CTG GAC
Leu Leu Asp Glu Glu Gln Leu Trp Ala Glu Val Ser Gln Ala Gly Thr Val Leu Asp>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

2800 2810 2820 2830 2840 2850
AGC AAC CAC ACG GTG GGC GTC CTG GCC AGC GCC CAC CGC CCC CAG GGC CCG GCC GAC
Ser Asn His Thr Val Gly Val Leu Ala Ser Ala His Arg Pro Gln Gly Pro Ala Asp>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

2860 2870 2880 2890 2900 2910
GCC TGG CGC GCC GCG GTG CTG ATC TAC GCG AGC GAC GAC ACC CGC GCC CAC CCC AAC
Ala Trp Arg Ala Ala Val Leu Ile Tyr Ala Ser Asp Asp Thr Arg Ala His Pro Asn>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

2920 2930 2940 2950 2960
CGC AGC GTC GCG GTG ACC CTG CGG CTG CGC GGG GTG CCC CCC GGC CCG GGC CTG GTC
Arg Ser Val Ala Val Thr Leu Arg Leu Arg Gly Val Pro Pro Gly Pro Gly Leu Val>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

2970 2980 2990 3000 3010 3020
TAC GTC ACG CGC TAC CTG GAC AAC GGG CTC TGC AGC CCC GAC GGC GAG TGG CGG CGC
Tyr Val Thr Arg Tyr Leu Asp Asn Gly Leu Cys Ser Pro Asp Gly Glu Trp Arg Arg>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3030 3040 3050 3060 3070 3080

CTG GGC CGG CCC GTC TTC CCC ACG GCA GAG CAG TTC CGG CGC ATG CGC GGT GAG
Leu Gly Arg Pro Val Phe Pro Thr Ala Glu Gln Phe Arg Arg Met Arg Ala Ala Glu>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3090 3100 3110 3120 3130

GAC CCG GTG GCC GCG GCG CCC CGC CCC TTA CCC GCC GGC GGC CGC CTG ACC CTG CGC
Asp Pro Val Ala Ala Ala Pro Arg Pro Leu Pro Ala Gly Gly Arg Leu Thr Leu Arg>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3140 3150 3160 3170 3180 3190

CCC GCG CTG CGG CTG CCG TCG CTT TTG CTG GTG CAC GTG TGT GCG CGC CCC GAG AAG
Pro Ala Leu Arg Leu Pro Ser Leu Leu Leu Val His Val Cys Ala Arg Pro Glu Lys>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3200 3210 3220 3230 3240 3250

CCG CCC GGG CAG GTC ACG CGG CTC CGC GCC CTG CCC CTG ACC CAA GGG CAG CTG GTT
Pro Pro Gly Gln Val Thr Arg Leu Arg Ala Leu Pro Leu Thr Gln Gly Gln Leu Val>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3260 3270 3280 3290 3300

CTG GTC TGG TCG GAT GAA CAC GTG GGC TCC AAG TGC CTG TGG ACA TAC GAG ATC CAG
Leu Val Trp Ser Asp Glu His Val Gly Ser Lys Cys Leu Trp Thr Tyr Glu Ile Glu>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3310 3320 3330 3340 3350 3360

TTC TCT CAG GAC GGT AAG GCG TAC ACC CCG GTC AGC AGG AAG CCA TCG ACC TTC AA
Phe Ser Gln Asp Gly Lys Ala Tyr Thr Pro Val Ser Arg Lys Pro Ser Thr Phe As>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3370 3380 3390 3400 3410 3420

CTC TTT GTG TTC AGC CCA GAC ACA GGT GCT GTC TCT GGC TCC TAC CGA GTT CGA GC
Leu Phe Val Phe Ser Pro Asp Thr Gly Ala Val Ser Gly Ser Tyr Arg Val Arg Al>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3430 3440 3450 3460 3470 3480

CTG GAC TAC TGG GCC CGA CCA GGC CCC TTC TCG GAC CCT GTG CCG TAC CTG GAG G
Leu Asp Tyr Trp Ala Arg Pro Gly Pro Phe Ser Asp Pro Val Pro Tyr Leu Glu V>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3490 3500 3510 3520 3530 3540

CCT GTG CCA AGA GGG CCC CCA TCC CCG GGC AAT CCA TGAG CCTGTGCTGA GCCCCAGTC
Pro Val Pro Arg Gly Pro Pro Ser Pro Gly Asn Pro>
_ _ _ _ _ ORF RF[1] _ _ _ _ _

3550 3560 3570 3580 3590 3600

GTTCACCTC CACCGGCAGT CAGCGAGCTG GGGCTGCACT GTGCCCATGC TGCCCTCCA TCACCC

3620 3630 3640 3650 3660 3670

TGCAATATAT TTTTATATT TAAAAAAAAA AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA AAAAAA

3690 3700 3710 3720 3730 3740

AAAAAAAAA AAAAAAAAAAG AATTCCTGCA GCCCGGGGA TCCACTAGTT CTAGAGGGCC CGTTTAAACC

3760 3770 3780 3790 3800 3810 3820
* * * * *
CGCTGATCAG CCTCGACTGT GCCTTCTAGT TGCCAGCCAT CTGTTGTTTG CCCCTCCCCC GTGCCTTCCT
3830 3840 3850 3860 3870 3880 3890
* * * * *
TGACCCTGGA AGGTGCCACT CCCACTGTCC TTTCCTAATA AAATGAGGAA ATTGCATCGC ATTGTCTGAG
3900 3910 3920 3930 3940 3950 3960
* * * * *
TAGGTGTCAT TCTATTCTGG GGGGTGGGGT GGGGCAGGAC AGCAAGGGGG AGGATTGGGA AGACAATAGC
3970 3980 3990 4000 4010 4020 4030
* * * * *
AGGCATGCTG GGGATGCGGT GGGCTCTATG GCTTCTGAGG CGGAAAGAAC CAGCTGGGGC TCGAGAGCTT
4040 4050 4060 4070 4080 4090 4100
* * * * *
GGCGTAATCA TGGTCATAGC TGTTTCTGT GTGAAATTGT TATCCGCTCA CAATTCACA CAACATACGA
4110 4120 4130 4140 4150 4160 4170
* * * * *
GCCGGAAGCA TAAAGTGTA AGCCTGGGGT GCCTAATGAG TGAGCTAACT CACATTAATT GCGTTGCGCT
4180 4190 4200 4210 4220 4230 4240
* * * * *
CACTGCCCCG TTTCCAGTCG GGAAACCTGT CGTGCCAGCT GCATTAATGA ATCGGCCAAC GCGCGGGGAG
4250 4260 4270 4280 4290 4300 4310
* * * * *
AGGCGGTTTG CGTATTGGGC GCTCTTCCGC TTCTCTGCTC ACTGACTCGC TGCCTCGGT CGTTCCGCTG
4320 4330 4340 4350 4360 4370 4380
* * * * *
CGGCGAGCGG TATCAGCTCA CTCAAAAGCG GTAATACGGT TATCCACAGA ATCAGGGGAT AACGCAGGAA
4390 4400 4410 4420 4430 4440 4450
* * * * *
AGAACATGTG AGCAAAAGGC CAGCAAAAGG CCAGGAACCG TAAAAAGGCC GCGTTGCTGG CGTTTTTCCA
4460 4470 4480 4490 4500 4510 4520
* * * * *
TAGGCTCCGC CCCCCTGACG AGCATCACAA AAATCGACGC TCAAGTCAGA GGTGGCGAAA CCCGACAGGA
4530 4540 4550 4560 4570 4580 4590
* * * * *
CTATAAAGAT ACCAGGCGTT TCCCCCTGGA AGCTCCCTCG TCGCTCTCC TGTTCCGACC CTGCCGCTTA
4600 4610 4620 4630 4640 4650 4660
* * * * *
CCGGATACCT GTCCGCCTTT CTCCCTTCGG GAAGCGTGGC GCTTTCTCAA TGCTCACGCT GTAGGTATCT
4670 4680 4690 4700 4710 4720 4730
* * * * *
CAGTTCCGCTG TAGGTCGTTT GCTCCAAGCT GGGCTGTGTG CACGAACCCC CCGTTCAGCC CGACCGCTGC
4740 4750 4760 4770 4780 4790 4800
* * * * *
GCCTTATCCG GTAACATATCG TCTTGAGTCC AACCCGGTAA GACACGACTT ATCGCCACTG GCAGCAGCCA

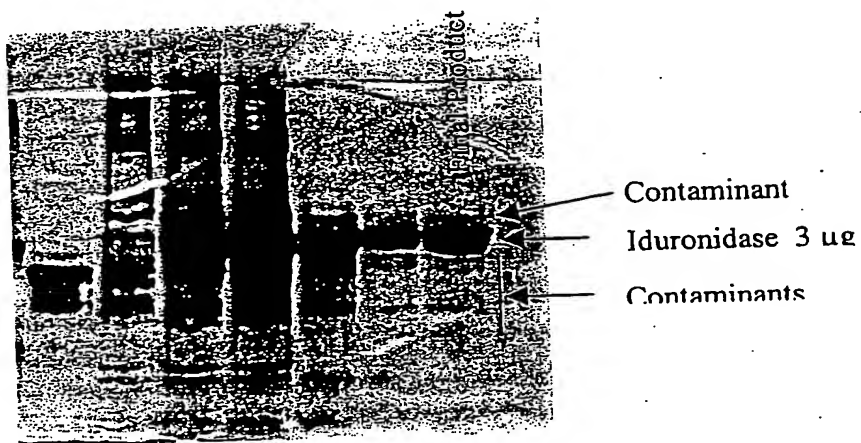
4810 4820 4830 4840 4850 4860 4870
 CTGGTAACAG GATTAGCAGA GCGAGGTATG TAGGCGGTGC TACAGAGTTC TTGAAGTGGT GGCCTAACTA
 4880 4890 4900 4910 4920 4930 4940
 CGGCTACACT AGAAGGACAG TATTTGGTAT CTGCGCTCTG CTGAAGCCAG TTACCTTCGG AAAAAGAGTT
 4950 4960 4970 4980 4990 5000 5010
 GGTAGCTCTT GATCCGGCAA ACAAACCACC GCTGGTAGCG GTGGTTTTTT TGTGTGCAAG CAGCAGATTA
 5020 5030 5040 5050 5060 5070 5080
 CGCGCAGAAA AAAAGGATCT CAAGAAGATC CTTTGATCTT TTCTACGGGG TCTGACGCTC AGTGGAAACGA
 5090 5100 5110 5120 5130 5140 5150
 AAACCTCACGT TAAGGGATTT TGGTCATGAG ATTATCAAAA AGGATCTTCA CCTAGATCCT TTAAATTA
 5160 5170 5180 5190 5200 5210 5220
 AAATGAAGTT TTAAATCAAT CTAAAGTATA TATGAGTAAA CTTGGTCTGA CAGTTACCAA TGCTTAATCA
 5230 5240 5250 5260 5270 5280 5290
 GTGAGGCACC TATCTCAGCG ATCTGTCTAT TTCGTTTCATC CATAGTTGCC TGACTCCCCG TCGTGTAGAT
 5300 5310 5320 5330 5340 5350 5360
 AACTACGATA CGGGAGGGCT TACCATCTGG CCCAGTGCT GCAATGATAC CGCGAGACCC ACGCTCACCG
 5370 5380 5390 5400 5410 5420 5430
 GCTCCAGATT TATCAGCAAT AAACCAAGCCA GCCGGAAGGG CCGAGCGCAG AAGTGCTCCT GCAACTTTAT
 5440 5450 5460 5470 5480 5490 5500
 CCGCCTCCAT CCAGTCTATT AATTGTTGCC GGGAGCTAG AGTAAGTAGT TCGCCAGTTA ATAGTTTGCG
 5510 5520 5530 5540 5550 5560 5570
 CAACGTTGTT GCCATTGCTA CAGGCATCGT GGTGTCACGC TCGTCGTTTG GTATGGCTTC ATTCAGCTCC
 5580 5590 5600 5610 5620 5630 5640
 GGTTCCCAAC GATCAAGGCG AGTTACATGA TCCCCATGT TGTGCAAAA AGCGGTTAGC TCCTTCGGTC
 5650 5660 5670 5680 5690 5700 5710
 CTCCGATCGT TGTCAGAACT AAGTTGGCCG CAGTGTTATC ACTCATGGTT ATGGCAGCAC TGCATAATTC
 5720 5730 5740 5750 5760 5770 5780
 TCTTACTGTC ATGCCATCCG TAAGATGCTT TTCTGTGACT GGTGAGTACT CAACCAAGTC ATTCTGAGAA
 5790 5800 5810 5820 5830 5840 5850
 TAGTGTATGC GGCGACCGAG TTGCTCTTGC CCGGCGTCAA TACGGGATAA TACCGCGCCA CATAGCAGAA
 5860 5870 5880 5890 5900 5910 5920

CTTTAAAAGT GCTCATCATT GGAAAACGTT CTTGGGGGCG AAAACTCTCA AGGATCTTAC CGCTGTTGAG
 * 5930 * 5940 * 5950 * 5960 * 5970 * 5980 * 5990 *
 * * * * * * * * *
 ATCCAGTTCG ATGTAACCCA CTCGTGCACC CAACTGATCT TCAGCATCTT TTACTTTCAC CAGCGTTTCT
 * 6000 * 6010 * 6020 * 6030 * 6040 * 6050 * 6060 *
 * * * * * * * * *
 GGGTGAGCAA AACAGGAAG GCAAAATGCC GCAAAAAGG GAATAAGGGC GACACGGAAA TGTGAATAC
 * 6070 * 6080 * 6090 * 6100 * 6110 * 6120 * 6130 *
 * * * * * * * * *
 TCATACTCTT CCTTTTTCAG TATTATTGAA GCATTTATCA GGGTTATTGT CTCATGAGCG GATACATATT
 * 6140 * 6150 * 6160 * 6170 * 6180 * 6190 * 6200 *
 * * * * * * * * *
 TGAATGTATT TAGAAAAATA AACAAATAGG GGTTCGCGC ACATTTCGCC GAAAAGTGCC ACCTGACGTC

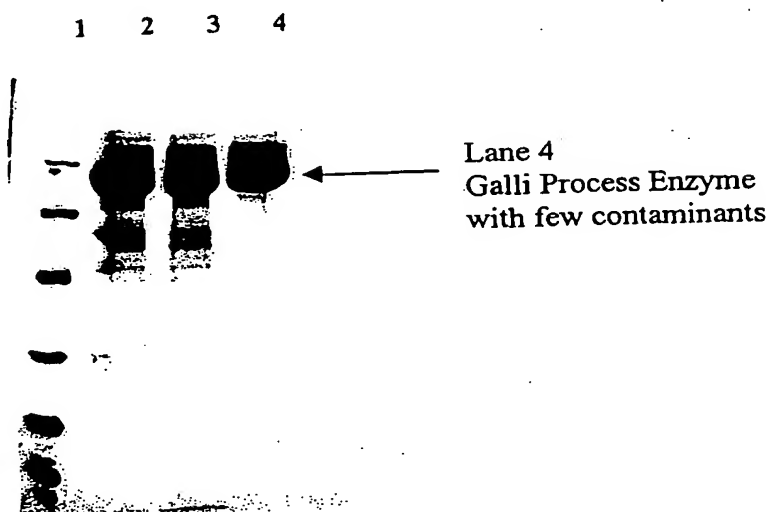
FIGURE 1G

FIGURE 2. SDS-POLYACRYLAMIDE GELS DEMONSTRATING IMPROVEMENTS IN PURITY

Gel using the Kakkis et al 1994, published procedure for purification



Gel using the new Galli Process contained in this application



1. Molecular Weight Marker
2. Prior Process Carson (nonpublished) Batch 2000C9001 Reference Reduced (7.5 μ g)
3. Same Batch 2000C9001 Reference Reduced (5.0 μ g)
4. Galli Process Enzyme Batch P10006 (5.0 μ g)

FIGURE 2

FIGURE 3A IDURONIDASE PRODUCTION USING THE GALLI PROCESS

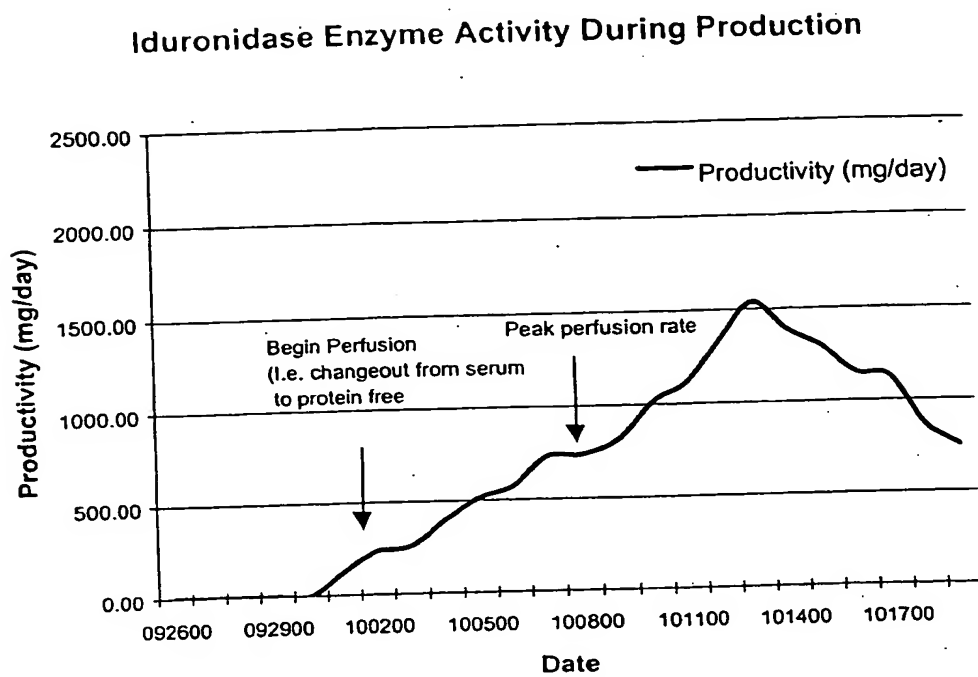
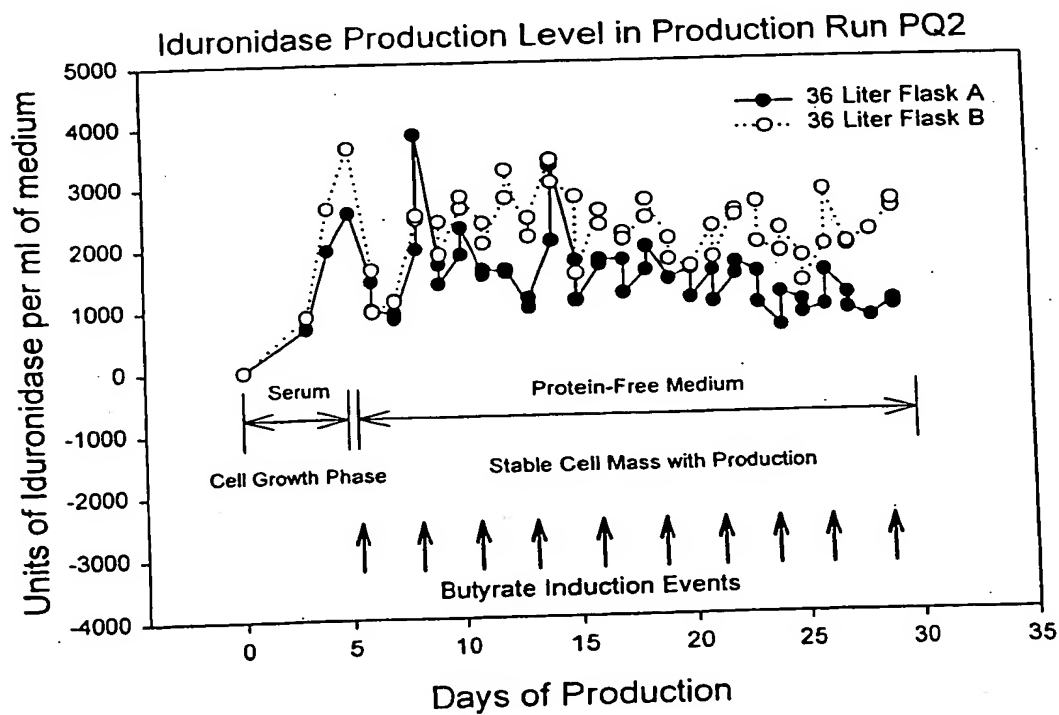
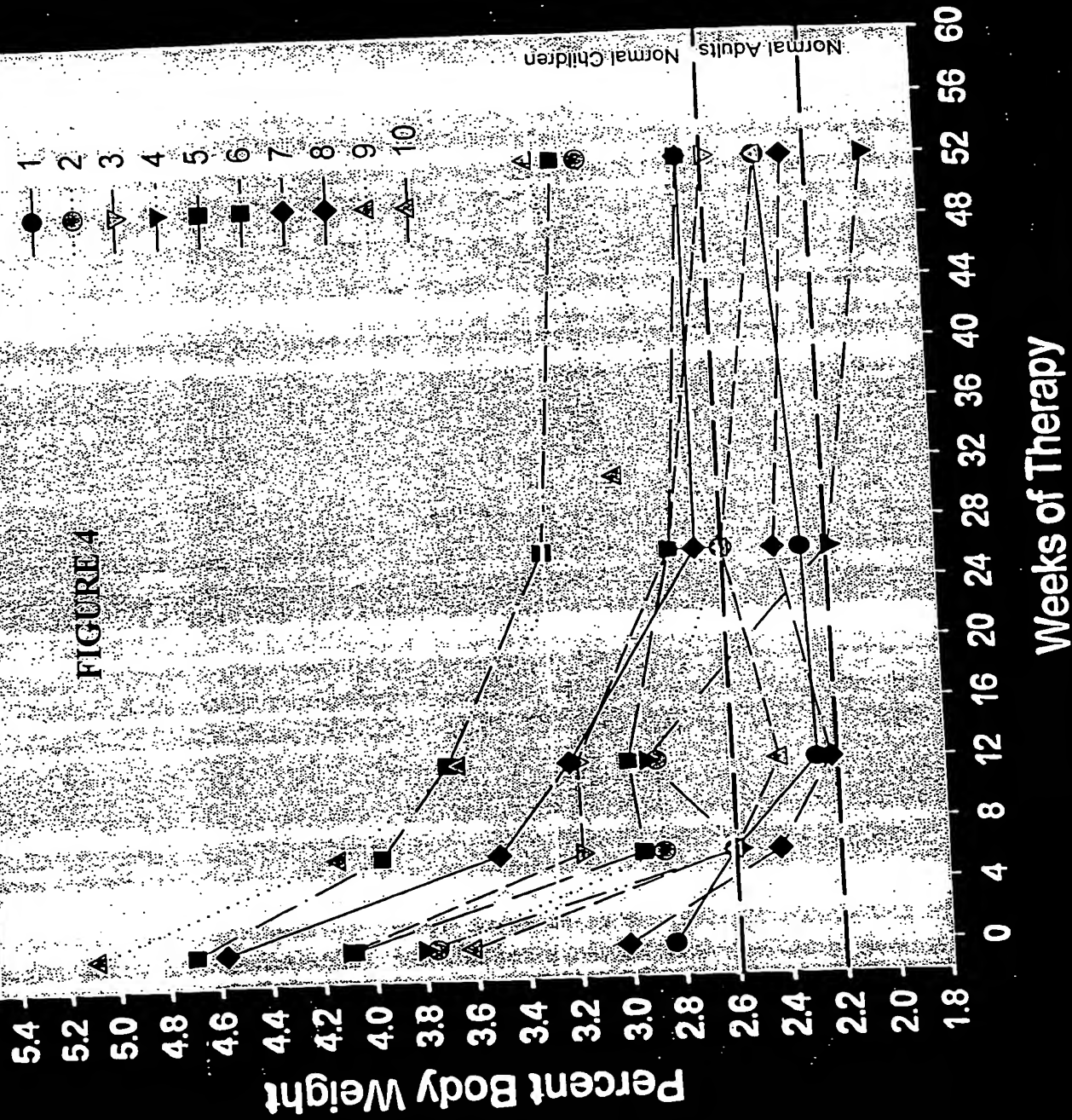


FIGURE 3B. IDURONIDASE PRODUCTION USING BUTYRATE INDUCTION



Reduction in Liver Volume During Enzyme Therapy

FIGURE 4



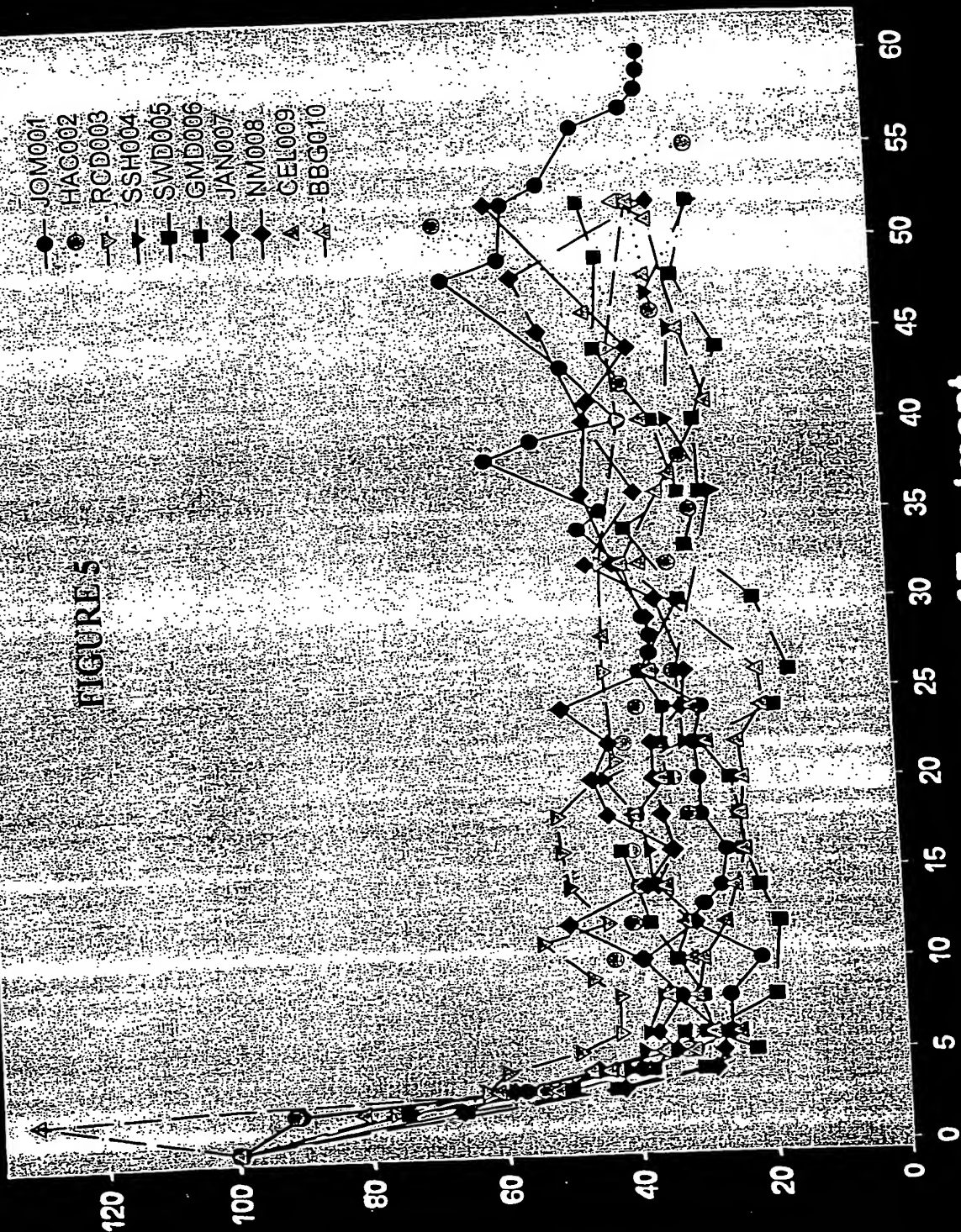
Urinary GAG Excretion During Enzyme Therapy

FIGURES

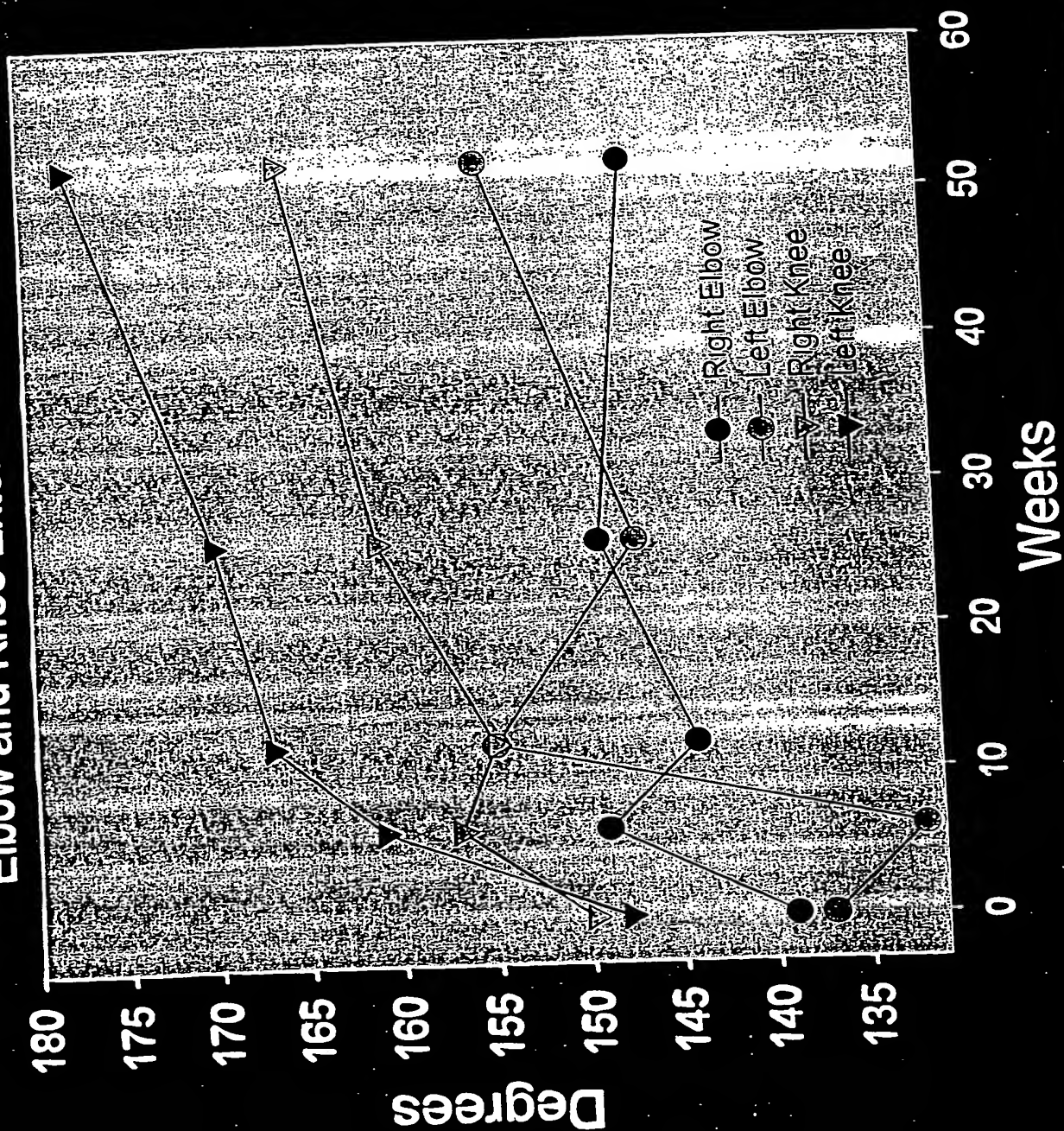
- JOM001
- HAG002
- ▽ RCD003
- ▽ SSH004
- SWD005
- GMD006
- ◆ JAN007
- ◆ NM008
- △ GEL009
- △ BGG010

Percent Starting GAG

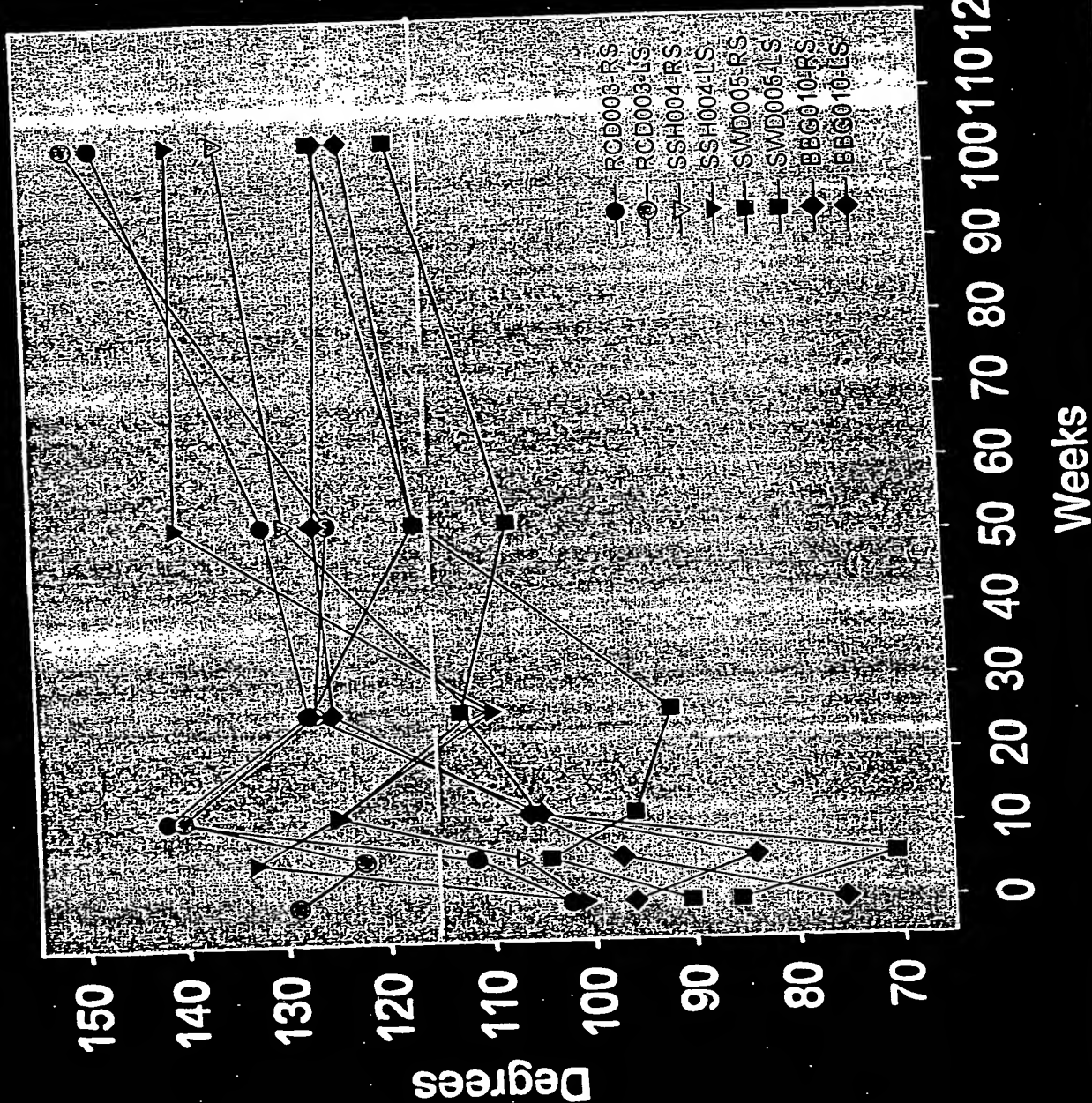
Weeks of Treatment



Elbow and Knee Extension in HAC002

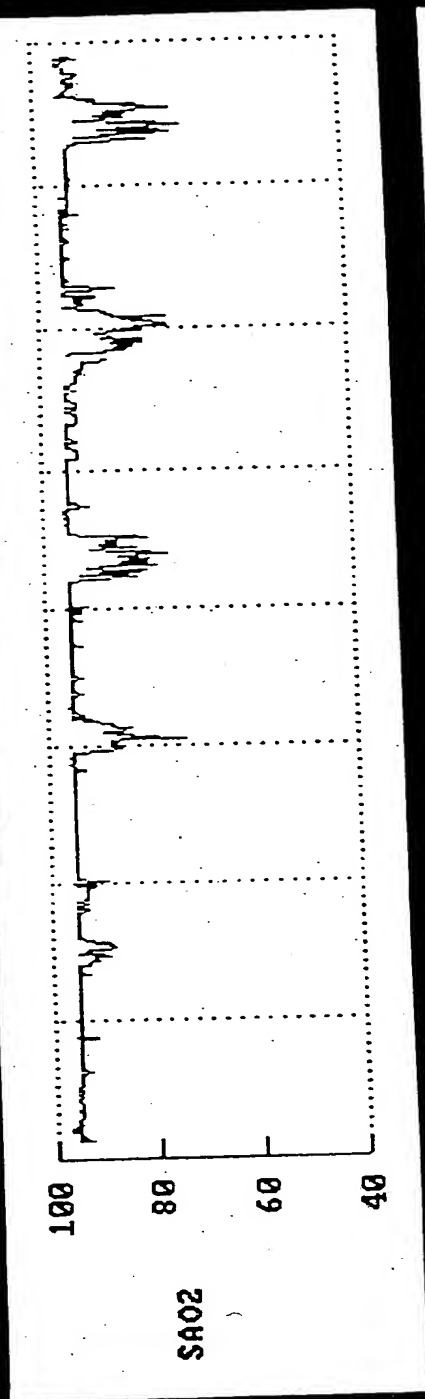


Shoulder flexion to 104 weeks in four patients with most restriction

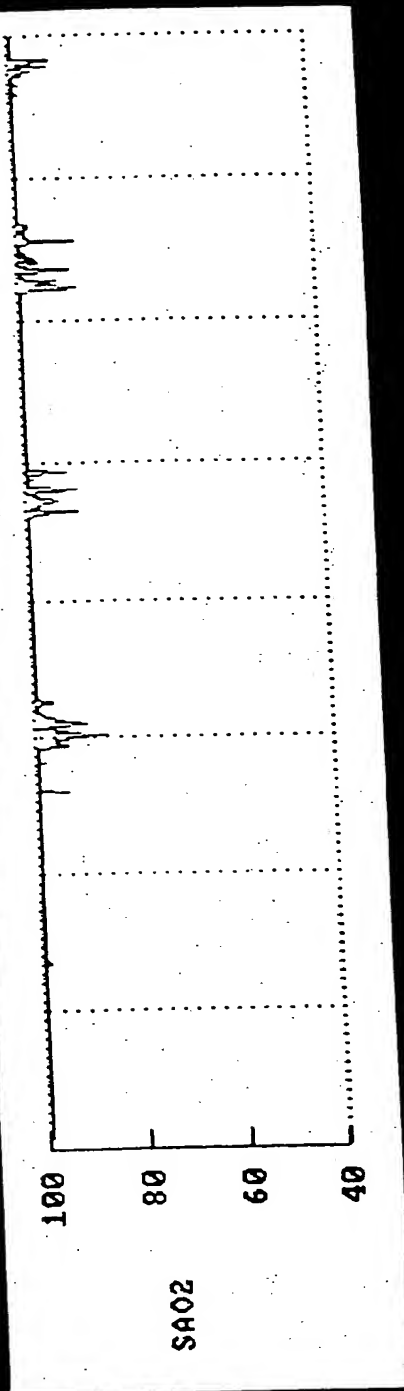


Sleep Apnea Improves

0 weeks



After
6 weeks

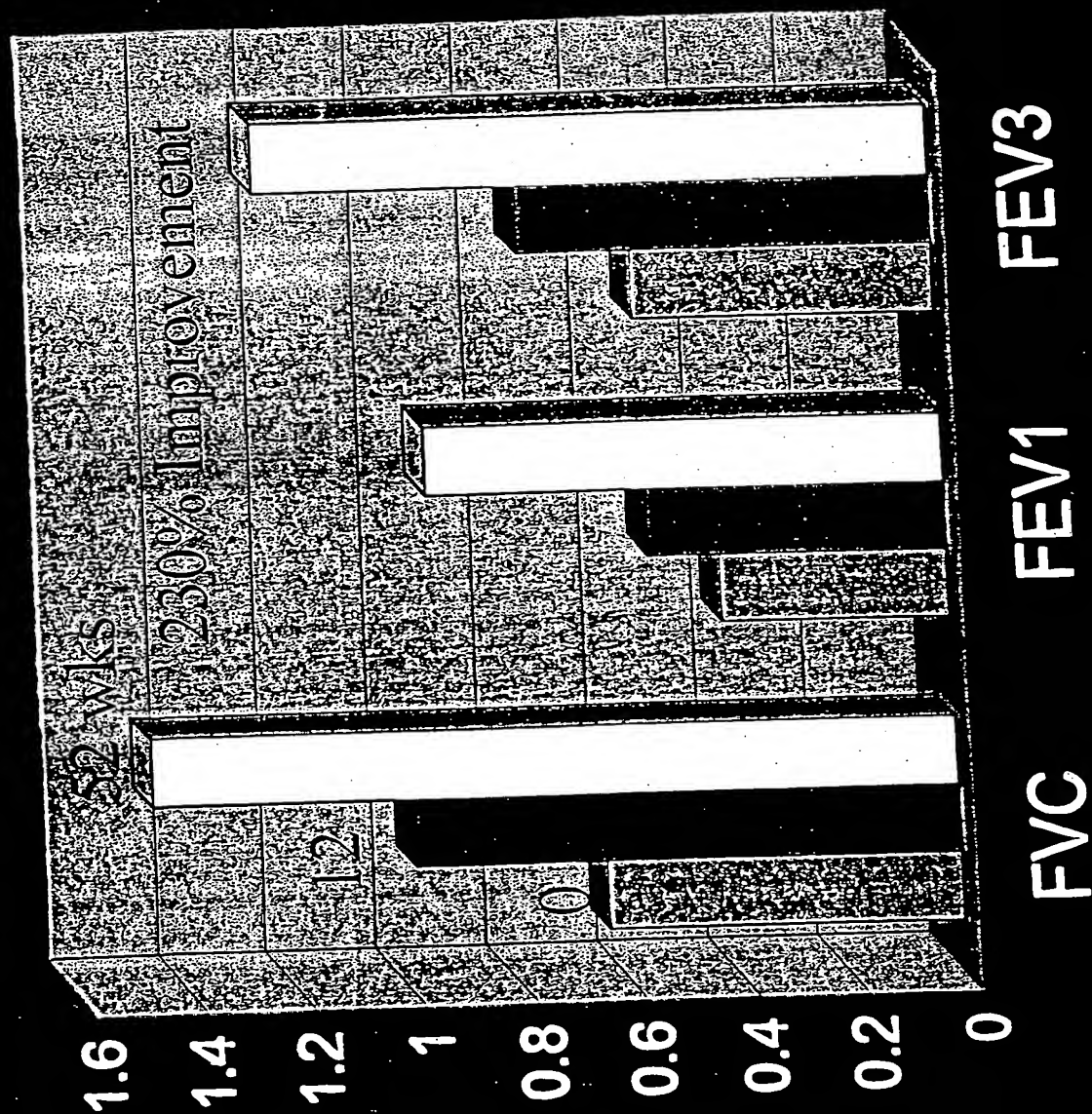


Apneas + Hypopneas During Sleep Pre and Post Treatment



JOM001 AHC002 RCD003 SSH004 SWD005 GMD006 JAN007 N-M008 CEL009 BBG010

Pulmonary Function Tests in GMD006



Increased Height Growth Velocity



FIGURE 12.

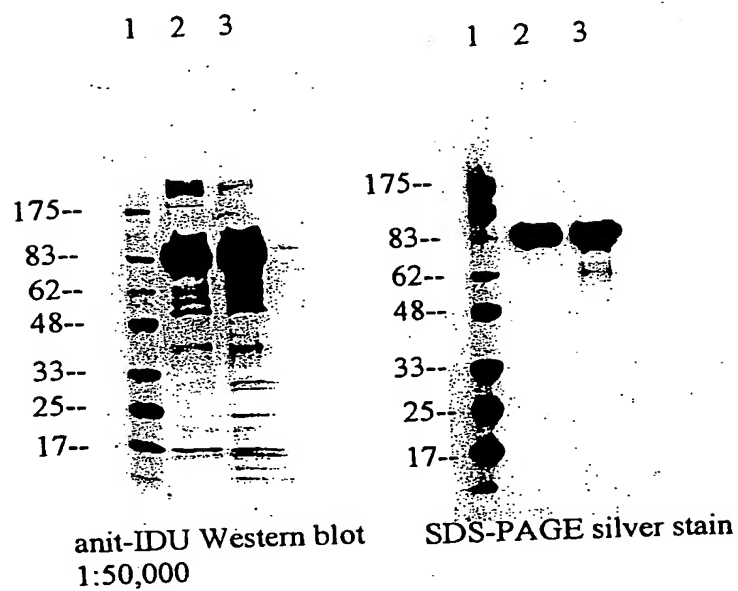
COMPARISON OF HOST PROTEIN CONTAMINATION BETWEEN A PRIOR AND THE NEW GALLI PROCESS

Chinese Hamster Ovary Host Protein Contamination by ELISA Assay

SOURCE AND BATCH NUMBER	CHOP PROTEIN CONTAMINATION (microgram per milligram)	PERCENT CHOP CONTAMINATION	PURITY OF THE ENZYME FROM CHOP
Prior Process (Carson/REI)			
C9002	14	1.4%	98.6%
C9003	24	2.4%	97.6%
C9004	16	1.6%	98.4%
New Process (Galli)			
P1003	<1.3	<0.13%	>99.9%
P1006	1.2	0.12%	99.9%
P1007	<0.6	<0.06%	>99.9%
P1008	<0.67	<0.067%	>99.9%

FIGURE 12

Comparison of Galli and Carson Material



1 Marker
2 Galli Referenced-0201
3 Carson C9002

5ug/lane

FIGURE 13